

# U.S. Navy Salvage And Battle Damage Repair





## *Purpose*

- Convince you that no matter what the scenario, the U.S. Navy and especially Expeditionary Warfare needs an effective combat salvage force.

➤ 1 or 2 major regional conflicts

Or

➤ Asymmetric warfare



*USS COLE damage*



*USS TRIPOLI - In drydock  
revealing mine damage*

- Ensure combat salvage is integrated into the Task Force in wartime or during training.





## *How To Convince You*



- ❑ **Look at recent history**
  - **Falklands War**
  - **Gulf War**
  - **USS COLE attack in Yemen**



*HMS Sheffield*

- ❑ **Address recent N76 sponsored analysis conducted by the Center for Naval Analysis.**



*USS PRINCETON - being towed by SMIT NEW YORK*



## *British Combat Salvage During Falklands War*



### □ When the RN invasion force sailed from PORTSMOUTH

- No organic salvage capability sailed with them.
- Vessels damaged
  - ◆ HMS Glamorgan (Type 42 DDG)
- Vessels sunk
  - ◆ HMS Sheffield (Type 42 DDG)
  - ◆ HMS Antelope (Type 21 Frigate)
  - ◆ M/V Atlantic Conveyor
  - ◆ HMS Ardent (Type 21 Frigate)
  - ◆ HMS Coventry (Type 42 DDG)
  - ◆ Sir Galahad - LSL (Royal Fleet Auxiliary)



*HMS Sheffield*



*HMS Coventry*



*HMS Glamorgan*



*HMS Antelope*



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# ***USN Combat Salvage Support For Desert Storm***

## **Desert Storm/ Gulf War - 1991**

- ❑ **Prior to Desert Storm NAVCENT's OPLAN did not have a Salvage Annex/Addendum, so no salvage vessels were in the AOR.**
- ❑ **In Nov '90 USS BEAUFORT was directed to sail to the Gulf.**
- ❑ **In Nov/Dec/Jan SUPSALV established an ESSM base in Sharjah.**
- ❑ **Damaged vessels**
  - ◆ **Result of fire/breakdown/flooding**
    - **USNS CAPE EDMONT (T-AKR 5069)**
    - **USNS CURTISS (T-AVB 4)**
    - **USNS CAPE BON (T-AK 5059)**
    - **USNS CAPE CHARLES (T-AK 5038)**
    - **USNS SANTA ANA (T-AK 5022)**
    - **M/V Mercs Horana (major fire, 5 vessels assisted)**
  - ◆ **Groundings**
    - **USNS Andrew J. Higgins (T-AO 190) Gulf of Oman 2 Jan '91**
  - ◆ **Collisions**
    - **USS KANSAS CITY (AOR 3) and USS HARRY W. HILL (DD 986)**
  - ◆ **Mine Strikes**
    - **USS TRIPOLI (LPH 10)**
    - **USS PRINCETON (CG 59)**



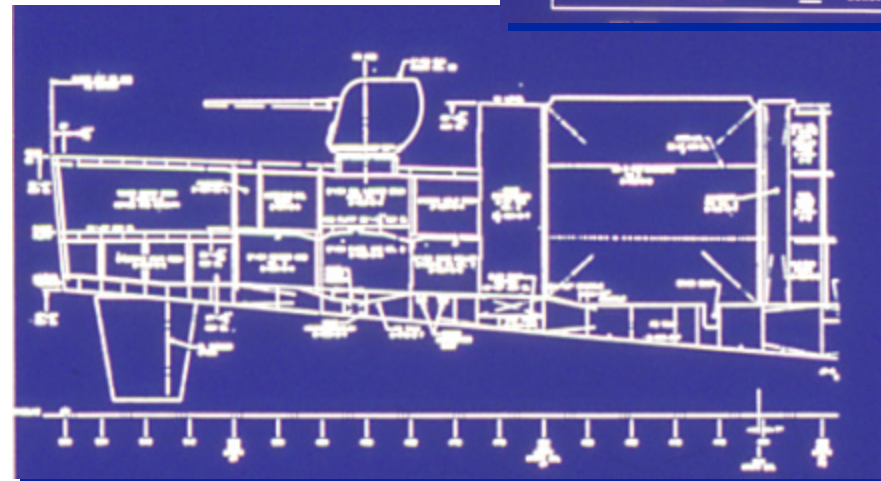
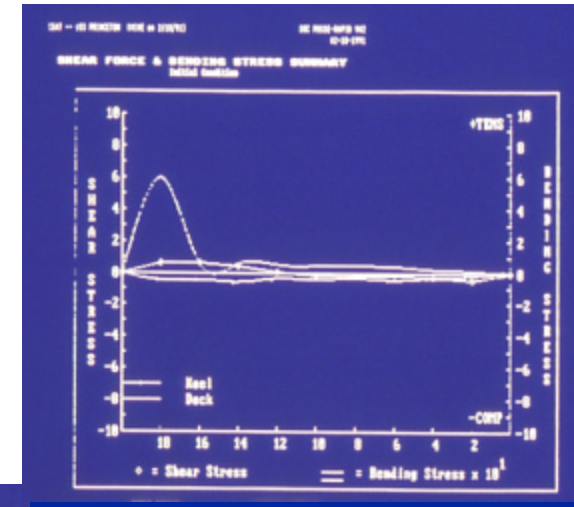
## Battle Damage



### ❑ USS PRINCETON (CG 59)

- ◆ Detonates two influence mines off Kuwait coast.
- ◆ USS BEAUFORT immediately dispatched divers via zodiac to aid in PRINCETON's initial analysis.
- ◆ Received salvage engineering support and recommendations.
- ◆ Ship taken under tow to Bahrain
- ◆ Ultimately Smit New York was used to tow the PRINCETON to Dubai for permanent repair.

*Open crack at shear strake, frame 471*



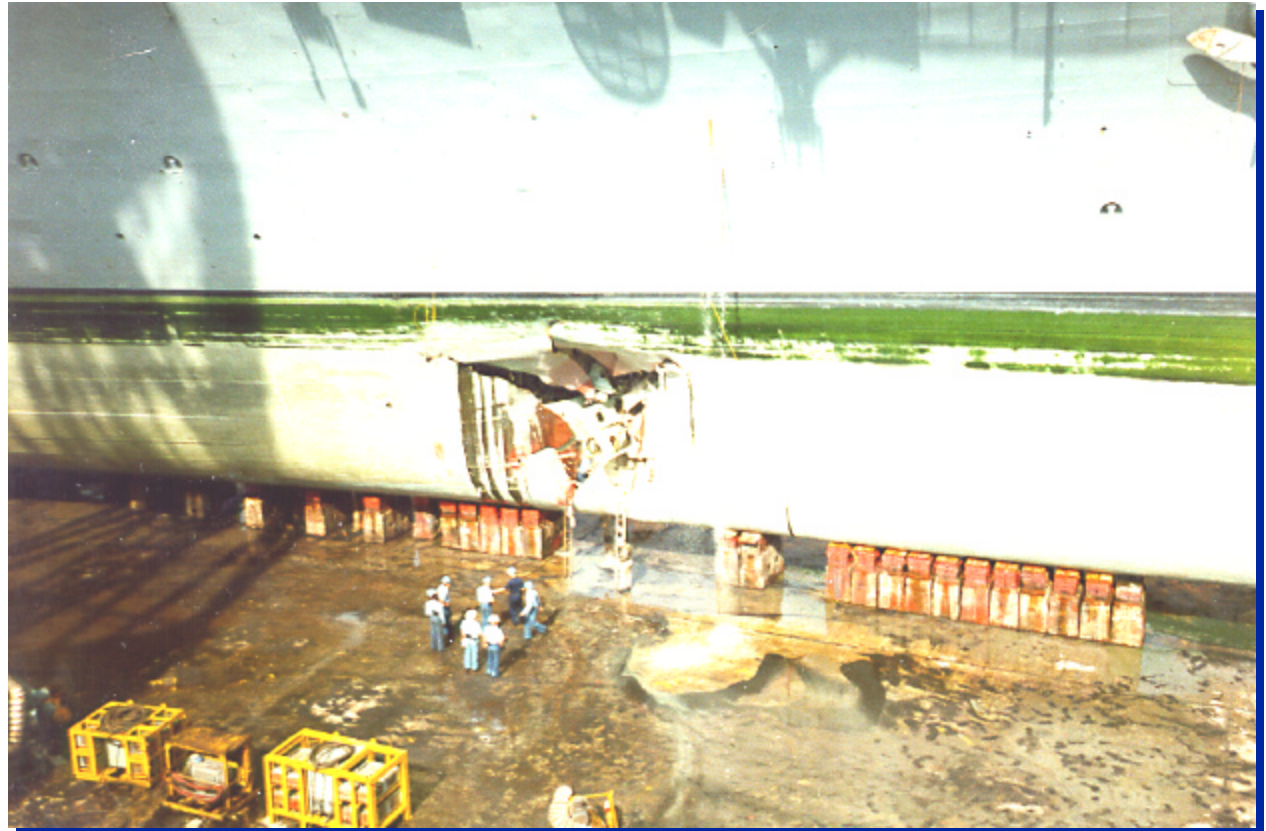




## *Battle Damage*

### ❑ **USS TRIPOLI (LPH 10)**

- ◆ Hits floating mine off Kuwait coast.
- ◆ Received salvage engineering support, salvage recommendations and salvage ship escort to Bahrain.



*USS TRIPOLI - In drydock revealing mine damage*



## Asymmetric Warfare



- ❑ Instant response from MDSU DET in La Maddalena Italy. DET flew in with surfaced supplied diving equipment.
- ❑ Equipment provided from forward based Emergency Ship Salvage Material storage.
- ❑ Engineering evaluation- measured keel deflection to confirm heavy lift option.



*Damage to port side of USS COLE*



*USS COLE onboard MV Blue Marlin*



*MDSU 2 diver inside USS COLE engine room*





## *Collisions And Groundings*



### ❑ **USS LA MOURE COUNTY**

- Towed free by Chilean ATF
- Safe offload of 18 AAV's only after use of dracones to offload fuel and fuel/water mixed tanks.
- Restored to towable status



*LA MOURE COUNTY (LST 1194)  
Aground off the coast of Chile*

### ❑ **USS DENVER**

- Quick response by Navy UWSH teams allowed DENVER to sail home just ten days after collision.



*Bow damage to USS DENVER LPD 9*



*Chilean ATF assisting LA MOURE COUNTY*



*Dracone used to offload LA MOURE COUNTY's fuel*



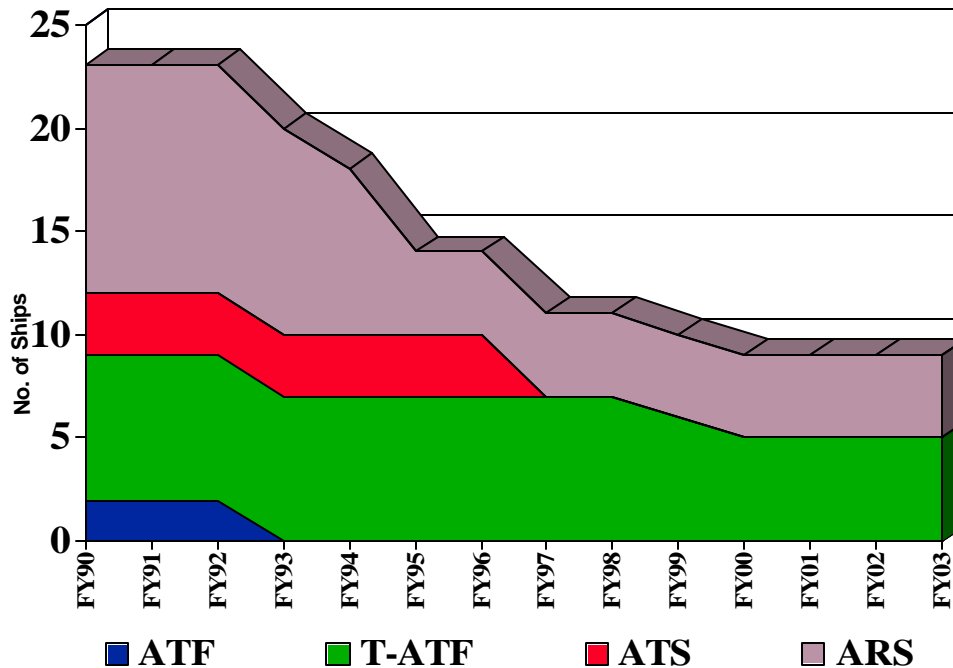
# Salvage Ship Force Level

## Trends

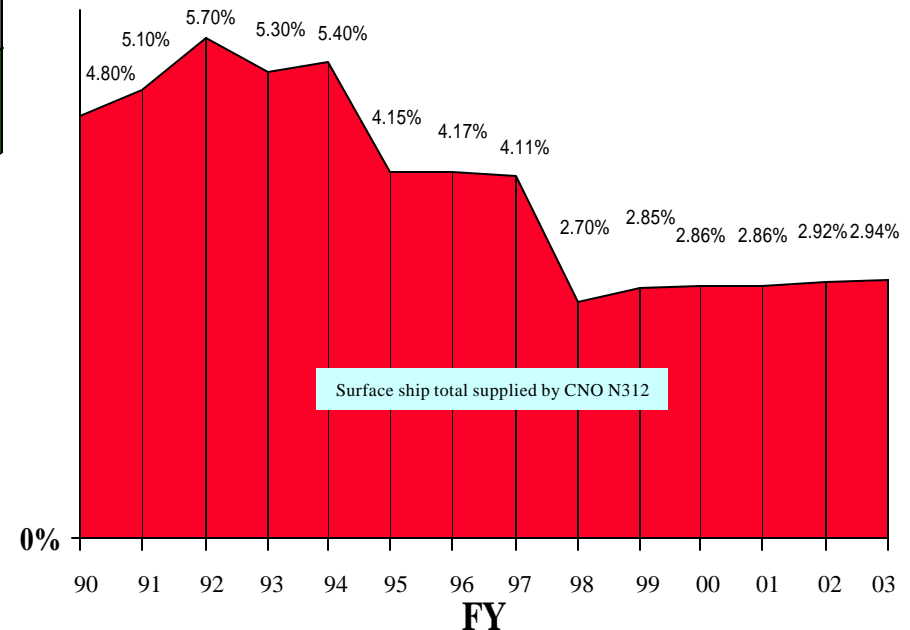
❑ We are at critical mass.

- Forced decision to replace 1140 COs with 1110s.
- Limits enlisted experience levels.

❑ Flatline with no replacement of 20 – 25 year old fleet.



Salvage Ships as  
a Percentage  
of Surface Ships



Surface ship total supplied by CNO N312



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## *Force Level Analysis*



- ❑ **N76 contracted with the Center For Naval Analysis to use campaign analysis from the Defense Planning Guidance to establish force level requirements. (Salvage Force Level Requirements CRM D0003419.A2/Final of May 2001)**
- ❑ **Analyzed present fleet assets ability to meet the requirement.**
- ❑ **Recommendation**
  - **Retain the current force level of 4 active salvage vessels and 5 MSC towing vessels.**
  - **Consider forward basing of salvage and towing assets for rapid response.**





## *Current Fleet Salvage Assets*



### 4 ARS-50 Class

**USS SAFEGUARD ARS 50**

**USS GRASP ARS 51**

**USS SALVOR ARS 52**

**USS GRAPPLE ARS 53**



### 5 T-ATF-166 Class

**USS CATAWBA T-ATF 168**

**USS NAVAJO T-ATF 169**

**USS MOHAWK T-ATF 170**

**USS SIOUX T-ATF 171**

**USS APACHE T-ATF 172**

*T-ATF w/MDSU and  
Flyaway Mixed Gas System*





## *Three Tier Approach To Salvage*

### ❑ Tier 1 – Mobile Diving and Salvage Units with Emergency Ship Salvage Material.

- Forward Deployed / Flyaway
- Rapid Initial Response

*MDSU 1 Divers*



### ❑ Tier 2 – ARS / T-ATF

- Four Salvage Ships / 5 Towing Ships
- Heavy Combat Salvage / Towing

*ARS recovery of CH46  
helicopter*



### ❑ Tier 3 - Commercial Support

- Relieves Pressure On U.S. Navy  
Salvage / Towing Assets

*USS CONSTITUTION  
towed by a commercial tug*





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## *Commercial Salvage Availability*

### **A Reassessment of the Marine Salvage Posture of the United States**

- ☐ **National Research Council Marine Board 1994 Study**
- ☐ **Conclusions**
  - ◆ **Deficiencies exist in U.S. commercial salvage capabilities.**
  - ◆ **Next generation of civilian salvors is NOT being trained or attracted.**
  - ◆ **Adequate USN salvage capability augment by U.S. commercial sector is doubtful.**
- ☐ **As a result we will rely on other allied navys or commercial salvage firms.**





## *Divers Other/Day Jobs*

- ❑ 70 Major Ship and Submarine Repairs per Year
- ❑ 43 Emergent Dry Docking Avoided in FY-01
- ❑ Examples include:



*MDSU 1 divers conduct external inspection of F/V Ehime Maru*

*USS CONSTELLATION (CV 64)  
After divers discover rudder falling off,  
rudder and stock are replaced underwater  
and ship avoids dry-docking.*



*F/V Ehime Maru*

*USS PORT ROYAL (CG 73)  
Catastrophically failed shaft  
bearing is replaced and ship  
continues on deployment from  
Bahrain*





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## *Conclusion*

- ❑ **Expeditionary or Asymmetric Warfare REQUIRES Combat Salvage Support.**
- ❑ **Approach should be tiered**
  - **Flyaway mobile USN teams**
  - **Grey Hull / MSC USN**
  - **Commercial**
- ❑ **We need to start developing the next generation salvage ship.**